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UNCLAS SECTION 01 OF 04 SAN JOSE 000615

SENSITIVE
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DEPT FOR WHA/CEN, WHA/EPSC:AWONG AND FCORNEILLE, EEB/ESC/IEC/EPC,
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PGOV, CS
SUBJECT: COSTA RICA'S ELECTRICAL INFRASTRUCTURE - OPPORTUNITIES AND
CHALLENGES

REF: 2007 SAN JOSE 000873

11. (U) SUMMARY: U.S. investors identify physical infrastructure challenges as the key hurdle for Costa Rica's development and modernization, according to the Costa Rican-U.S. Chamber of Commerce. Costa Rica provides a sometimes reliable electric power supply to over 97 percent of the country. Its mountainous terrain and abundant rainfall have made it nearly self-sufficient in electricity generation. Despite this efficient record, Costa Rica must expand and invest in its electrical infrastructure to keep pace with ever-increasing demand, mitigate environmental impact, avoid blackouts (most illustrative during the 2007 dry season), seek solutions to manage higher costs, and refurbish dated machinery and equipment. END SUMMARY.

ELECTRICAL POWER GENERATION BY THE STATE

12. (U) The state-owned monopoly, the Costa Rican Institute of Electricity (ICE), provides 97 percent of the country's electricity. ICE has fulfilled domestic power needs since 1949. The total installed electrical capacity (public and private) in Costa Rica as of 2008 was 2,378 megawatts (MW), with a maximum demand of 1,525 MW, and a seasonal surplus availability (2007) between 60 and 562 MW depending on the day and supply. During the rainy season, ICE exports electrical power to Nicaragua, Honduras, El Salvador, Guatemala, and Panama. However, during the dry season, ICE often needs to import electricity from those same countries, mostly from Panama. Overall, electricity imports and exports are marginal compared to overall usage, with no set contracts, and only utilized on an as-needed basis. ICE's subsidiary, Compania Nacional de Fuerza y Luz, S.A. (CNFL), handles distribution for ICE, as well as five independent cooperatives.

13. (U) In 2008, the leading sources of energy generation were broken down as follows:

-- 78 percent generated by 29 public and 23 private (small) hydroelectric power plants (emitting no greenhouse gases);

-- 12 percent generated by 4 geothermal power plants in one 159 MW field in Bagaces, Guanacaste; and

-- 2 percent generated by 5 wind farms in Arenal and Miravalles (2 public and 3 private).

Thus renewable, clean energy contributed 92 percent of energy generation. Fossil fuel sources contributed the remaining 8 percent of electricity generated in 2008. Total national production was

9,416 GW/h and total national consumption was 9,320 GW/h, yielding a deficit of 96 GW/h which was imported.

DEMAND RISING

14. (U) ICE estimates that electricity demand will rise by 5.7 percent annually through 2020 (and up to 10 percent in tourism boom towns, assuming that visitor flows edge back up when the financial crisis eases). Ministry of Environment, Energy, and Telecommunications (MINAET) representatives confirm that ICE will need USD 7 billion over the next 14 years to keep generation, production, and distribution in line with the growing demand. ICE's expansion director and engineer Javier Orozco Canossa told us that current capacity can handle the two daily electrical usage peaks during the hours of 1000-1230 and 1700-2000. However, ICE struggles to cover seasonal deficits each dry season, especially every April, the last month of the dry season. From February to May, hydroelectric capacity drops from near 80 percent to 63 percent on average, requiring additional fossil fuels to compensate the difference.

BLACKOUTS

15. (U) In April 2007 (reftel), Costa Rica experienced rolling blackouts nationwide when ICE's capacity dropped 25 percent due to a particularly intense dry season, lack of infrastructure maintenance, and lack of emergency planning. The sequence of equipment failures started on April 3 when the 3 year-old Moin thermal turbine plant, which normally generates 40 MW, stopped due to a design flaw. The next day, the 34-year old 17 MW San Antonio de Belen thermal turbine

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plant stopped due to a transformer problem. On April 16, a 16-year old 36 MW turbine, also in Moin, halted. Two days later, the 33-year old thermal plant in Barranca stopped functioning. On April 19, a transformer at the Arenal substation exploded, losing 157 MW, and causing a national blackout lasting nine hours.

16. (U) Two of the three turbines and the Belen transformer were repaired within a week. The Moin turbine and the Arenal substation transformer issue took about a month to restore. Subsequent to the national blackout, the country experienced rolling blackouts for the next several weeks.

17. (U) Due to domestic demand, neighboring Panama stopped selling surplus electricity to Costa Rica prior to the April 2007 blackouts. ICE's production technician Alejandro Zuniga Luna stated that the April 2007 blackouts marked an "extraordinary event, and that it was not representative of the normal stability or efficiency of ICE."

CHALLENGES OTHER THAN DEMAND

18. (U) Rainfall pattern shifts due to climate change pose a significant challenge to Costa Rica's hydro-electrical production. When the water level in Lake Arenal falls (the nation's largest reservoir), there is not enough to maintain adequate power production. When the water level rises, the extra "potential" cannot be harnessed. For example, in January 2008, Arenal's dam was so full that 26,900 cubic meters of water had to be released. This amount of water could have generated 53 million kilowatt hours and provided electricity to 250,000 families (or one quarter of Costa Rica's households) for a month. ICE's technicians state that larger reservoirs and additional hydroelectric plants are needed to adapt to the changing climatic conditions and still keep pace with rising demand. If global climate changes greatly decrease hydroelectric power in the future, Costa Rica will need to seek alternative options or use additional fossil fuel energy to close the gap in demand.

CONTINGENCY PLANS

¶9. (SBU) Elbert Duran, ICE's public relations representative and spokesman, stated that ICE has established a variety of contingency plans to avoid future blackouts. These include renting two privately-owned, oil-fueled thermal plants; renting portable oil-fueled thermal plants to relocate as conditions merit; considering concessions for a biomass plant; and increasing concessions for Build-Operate-Transfer (BOT) plants that ICE will acquire after buying 20 years of electricity. ICE intends to expand their plan to draw off a variety of resources in order to avoid the "embarrassment" of future blackouts. In addition, ICE has encouraged public rationing and created a more aggressive public energy saving campaign, something that MINAET representatives stated was "unheard of" just a few short years ago.

LACK OF INVESTMENT IN THE FUTURE

¶10. (SBU) ICE blames economic constraints on investments, delays or blockage of issuing government authorizations, high oil prices, restrictive environmental and regulatory laws (such as the possible passage of the Water Resources Act), and environmental opposition groups for much of the shortfall in strategic projects. Rodolfo Gonzalez, General Manager of Costa Rica's Public Services Regulatory Authority (ARESEP), the GOCR's rate establishing agency, says that ICE has not kept pace with its own Electricity Generation Expansion Plan (PGE) for 2004-2020. ARESEP tends to set electric rates on a cost plus model, plus an additional amount for future investments. ICE claims that ARESEP's model underpays "real expenses," leaving a shortfall of funds to invest in infrastructure. According to MINAET representatives, the conflict was resolved in 2007 with the intervention of the IMF, which "re-categorized" new power plants as investments, rather than expenses, and brokered a deal between the Treasury Department, ARESEP, and ICE as to what constitutes expenses associated with energy production.

¶11. (SBU) According to ICE, a much-needed positive change came from the Arias Administration to help them invest in the future. An October 19, 2006 presidential decree ("Fortalecimiento del ICE y sus Empresas" No.33401) allows the state-owned institution and its

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subsidiaries to assume debt and invest funds in infrastructure, without asking permission from the National Council for Internal and External Financing (CONAFIN), a part of the Finance Ministry. The decree allows ICE to open credit lines, create environmental guarantees, refinance assets, restructure risks and costs, and assume up to USD 435 million in debt between 2006 and 2010. Furthermore, the decree allows ICE new liberties in administering its human resources, creating positions, increasing salaries, apparently in an attempt to retain knowledgeable officials under CAFTA-DR. ICE representatives stated that they had asked for this type of flexibility for years, and President Oscar Arias "finally had the guts" to do it.

BUREAUCRATIC CHALLENGES

¶12. (U) ACOPE (Costa Rican Association of Private Energy Producers) predicts that there won't be many new private electrical generation projects until a law allowing more private participation in the market is passed. Furthermore, ACOPE doesn't believe that the political climate is favorable for such a law. Two laws currently on the books allow private participation in the electricity market. However, institutional intransigence has frozen Law 7200, designed to allow electric power generation not exceeding 20 MW by a single project owned by private companies or consortia. Observers point to ICE's unwillingness to approve new contracts for purchasing electricity from private generators as the obstacle. ICE is more willing to acquire electric power under Law 7508, which provides private electric power generators the opportunity to build individual renewable energy production projects not exceeding 50 MW each under the Build-Operate-Transfer (BOT) scheme. The BOT scheme,

however, is not attractive to private generators because they must transfer the project to ICE at the end of the contract term, typically a period of 15 to 20 years.

FUTURE EXPANSION PLANS

¶13. (SBU) According to the Electricity Generation Expansion Plan (PGE), Costa Rica will produce all its electricity from renewable sources by 2010. ICE's Planning Director Gilberto de la Cruz told us, "By 2021, Costa Rica will obtain its energy needs by: 76 percent hydroelectric, 10 percent geothermal, 5 percent wind and biomass, and 9 percent biofuels." In other words, ICE plans to replace fossil fuels with biofuels, biomass, and increased wind generation. ICE's flagship project is the USD 1.6 billion Diquis project which includes a hydroelectric plant, dam, and reservoir. ICE's Expansion Director and Engineer Orozco believes that the PGE is "overly optimistic" and that Costa Rica will continue to need 5 to 9 percent fossil fuels to "smooth out the seasonal bumps" during the dry season, and "maybe more" depending on what happens with global climate changes. However, ICE does continue to explore other alternatives such as biofuels (sugar cane, pineapple, African palms, rice peel, orange peels, banana peels, and wood), additional solar panels, garbage conversion to fuel (under development by the "Ad Astra Rocket" company), marine algae, and marine current power.

¶14. In January 2009, the National Assembly approved a USD 500 million Inter-American Development Bank (IDB) loan that will focus on five major areas: (a) assist renewable energy research and modernize hydroelectric plants; (b) improve reservoir maintenance equipment; (c) meet quality, reliability, and continuity standards; (d) expand the rural electric grid; and (e) improve energy efficiency.

COMMENT

¶15. Given Costa Rica's energy potential, the country should be able to satisfy its own electricity needs through prudent management of its resources and streamlining the numerous bureaucratic obstacles that prevent the country's energy generating capacity from growing. Electricity is just one of many aspects of Costa Rica's infrastructure which makes doing business challenging for U.S. companies operating here. Roads, ports, airports, and telecommunications are also at the top of the list of infrastructure needs. As a cogent overall summary of Costa Rica's infrastructure challenges, Fernando Quevedo, Country Representative for the IDB in Costa Rica, observed to Embassy officials, "Costa Rica has lacked investment in infrastructure over the last 15 to 20 years."

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¶16. We believe that private sector investment initiatives could take firm root in Costa Rica; however, the GOCR needs to re-structure its government processes and address the general fear of private sector involvement in infrastructure investment in order to realize its true potential. Such an endeavor requires the (often elusive) cooperation of various public entities, including ICE, ARESEP, MINAET, Ministry of Foreign Trade, Ministry of Public Transport, the Comptroller, and the National Assembly, to develop new mechanisms for infrastructure development. And, the infrastructure players have to make tough choices, such as pushing ARESEP to recognize the real costs of providing electricity and allow ICE to pass these costs on to consumers. Such difficult decisions cut against the Tico cultural preference to reach consensus without hard choices.

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